1998 Field Team Olympics

"A training concept that takes you out of the classroom and into the real world."

State of Washington
Department of Health
Division of Radiation Protection

U. S. Department of Energy
Region 8
Radiological Assistance Program

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About the Book

This booklet is intended to provide a record of the activity highlights that took place before, during and after the 1998 Washington Joint Field Team Olympics. To help accomplish this goal, we have included an overview of the organizational tasks necessary to fulfill the training objectives. This is the first official recording of the Field Team Olympics and we hope this book will provide all of the 1998 participants with fond memories each time they browse through the text and pictures.

If you feel that your organization could benefit from a training exercise such as the one described in this brochure, please feel free to contact Susan May of the State of Washington Department of Health, Olympia, Washington or Kathy Beecher of the Department of Energy, Richland, Washington.

In The Beginning...

The concept, "Field Team Olympics," began in the early 1990's as an alternate training approach for teaching Washington State health physicists field team operations and response. In the past, conventional methods such as classroom lectures were the primary teaching tool. After a while, this resulted in a lack of enthusiasm and less than an adequate performance. In this high tech, busy world, a more interactive, hands-on approach to training was needed that not only kept personnel interested but enabled them to participate in a realistic experience. The value of using radioactive material results in a real world experience, the potential for cross-contamination and how to "handle" it. In addition, we wanted to share the experience with other responders like us, with whom one day, we may be working together during a major radiological accident.

Today our group has grown to include not only us, but also the Department of Energy, local and state emergency management agencies, the Department of Agriculture, Washington Public Power Supply System, Siemens Power Corp., and the Allied Technology Group. Private industry and government working together with a common mission of ensuring public health and safety. The DOE Region 8 RAP team became a planning partner in 1994.

Credits and Acknowledgements*

We would like to especially thank the following individuals for their enthusiasm, hard work and clever ideas that make this training event a success.

Event Sponsors

Washington State Department of Health
U. S. Department of Energy
Allied Technology Group (ATG)

Agency Representation

Washington State Department of Health
Department of Energy Radiological Assistance Program (RAP)
Washington Nuclear Plant-2
Siemens Power Corporation
Allied Technology Group (ATG)
HAMMER Training and Education Center

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Kim Butowicz, Washington State Department of Health

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Keith Taylor, U. S. Department of Energy
Earl Fordham, Washington State Department of Health
Mark Henry, Washington State Department of Health

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R. I. Scherpelz	Pacific Northwest National Lab
Jennifer Tanner	Pacific Northwest National Lab
Daniel Haggard	Pacific Northwest National Lab
Paul Tomerhasen	Pacific Northwest National Lab
Fred Klauss	Washington Public Power Supply System
Ron Jorgenson	Washington Public Power Supply System
Keith Taylor	U. S. Department of Energy
Larry Corgatelli	Fluor Daniel Hanford
Al Danielson	Washington State Department of Health
Aileen Jeffries	Washington State Department of Health
Anine Grumbles	Washington State Department of Health

Event Scene Actors and Controllers

Event RSO:	Terry Frazee, Department of Health
Residence Controllers:	Al Danielson, Department of Health Deanna Meggs, Oregon Department/Energy Keith Taylor, U. S. Department of Energy
Residence Actors:	Donna Somers, Fluor Daniel Hanford Larry Corgatelli, Fluor Daniel Hanford Gayla Aldridge, Fluor Daniel Hanford
Water Sample Controllers:	Ted Morales, Fluor Daniel Hanford Craig Lansing, Fluor Daniel Hanford Aileen Jeffries, Department of Health
Environmental Sample Controllers:	John Hall, U. S. Department of Energy Bob Clark, Department of Health
Air Sample Controllers:	Anine Grumbles, Department of Health Ralph Broz, Fluor Daniel Hanford
MUDAC Controllers:	Ron Jorgenson, WNP-2 Fred Klauss, WNP-2 Tom Rogers, Franklin County EM

Game Committee (Moderator and Judges)

Debbie Webb, Fluor Daniel Hanford
Susan May, Washington State Department of Health
Bob Clark, Washington State Department of Health
Al Danielson, Washington State Department of Health
Gayla Aldridge, Fluor Daniel Hanford
Ralph Broz, Fluor Daniel Hanford
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Steve Williams, Franklin County Emergency Management
Russ Bechtol, Photographer, Fluor Daniel Hanford
Fred Brunkhorst, Video, Lockheed Martin Services, Inc. (LMSI)
Rick Schieffer, DynCorp
Bill Robinson, Fluor Daniel Hanford

Teams

Green	YeVonna Muns	Siemens Power Corporation
	John Schmidt	Department of Health
	Janette Swindoll	Fluor Daniel Hanford
Blue	Steve Lockhaven	Siemens Power Corporation
	Kathy Fox-Williams	Department of Health
	David Phipps	Fluor Daniel Hanford
	Mark Pettit	Allied Technology Group
Red	Roger Schott	WNP-2
	Randy Ascelrod	Department of Health
	Timothy Hidalgo	Fluor Daniel Hanford
Yellow	Tim Tate	Siemens Power Corporation
	John Martell	Department of Health
	Dave Ellingson	Fluor Daniel Hanford
	Mark Smith	Allied Technology Group
Purple	Paul McBride	Siemens Power Corporation
	Gary Davis	B & W Hanford
	Johanna Berkey	Department of Health

*Note: Our list is based on attendance rosters from the 1998 event. Our apologies and thanks if we inadvertently missed someone.

1998 Event

The Olympic Training

Loosely based on the worldwide athletic competition known as “The Olympics," the training includes the following elements:

1. Classroom lectures.
2. Hands-on practice with equipment, both old and new technology.
3. Team development.
4. Interactive knowledge-building question and answer game
5. Designated scorers awarding teams points based on pre-determined criteria.
6. 1-2 day competitive event using real radiation.
7. Awards Ceremony
8. Lessons learned.

In the spirit of the Olympics, emphasis is placed on teamwork and competition among the participating field teams. Participant feedback is accomplished and later used in each agencies’ training program as well as future Field Team Olympics.

Conducted where the majority of participating agency responders live and work, this training alternates each year between the West side (Olympia area) or East side (Richland area) of Washington State.

Day One

The 1998 Field Team Olympics were held July 14 and 15, 1998. Kick-off started at 8:00 a.m. with sign-in and registration. Each person who attended was provided a training packet and name tag. This began the name-to-face recognition process.

Lectures

1. Communicating in Difficult Situations- Rapping with the Public
   "Communicating with the Public from a Field Team Perspective"
   By: Keith Taylor, U. S. Department of Energy

2. Meteorology and Unified Dose Assessment Center (MUDAC)
   "Information Flow, Field Team to Decisions to Implementation"
   By: Ron Jorgenson, WNP-2

3. Non-Routine Environmental Sampling
   "Purpose of Field Samples"
   By: Earl Fordham, CHP, Washington State Department of Health

4. A Standard Protocol for Reporting Field Information
   "Communicating Field Data in a Specific Order"
   By: Mark Henry, Washington State Department of Health

Gary Davis, Paul McBride and Johanna Berkey
discussing lecture concepts.

Field Team Olympics "Game"

The Game began the competition. Teams interacted with each other by choosing categories and difficulty then responding with a question. This game can become quite heated and planners try to keep topics specific so that the responses can be in the form of a question. Judges are needed to validate answers. Game categories chosen for the 1998 Field Team Olympics were:

Reporting Protocol	PIO	Trivia	Supply System EOF	Instrumentation	Sample Purpose

Debbie Webb and Bob Clark explaining the game rules and selecting the team order.

Judges discussing a controversial response.

Green Team concurring on an answer while Dave Ellingson and Randy Acselrod prepare for their turn.

Fair Booths

The first day's competition continued in the afternoon with six fair booths. Teams, at their own pace, moved from one booth to another. At each booth, teams were awarded points based on how they interacted with their own team members and fair booth staff. Additional points were awarded for how well the teams displayed enthusiasm and the Olympic spirit. Fair Booths this year were as follows:

Radiological Survey Instruments

Al Danielson watches as the Green Team discusses the use of survey meters. Team members are:

YeVonna Muns
Janette Swindoll
John Schmidt

John Schmidt and YeVonna Muns using survey meters to locate hidden sources.

Global Position System Equipment

Aileen Jeffries and Bob Clark discuss map coordinates while John Martell shows interest in the RAP vehicle fax machine.

Kathy Fox-Williams has a GPS unit set up and is waiting for the satellites to cooperate.

Larry Corgatelli watches as Tim Hidalgo and Randy Acselrod discuss the RAP vehicle fax machines.

MUDAC Demonstration Set-Up In A Classroom

Fred Klauss listens as the Blue team works on MUDAC issues.

Fred Klauss is pointing to the 10-mile EPZ and explaining to the Red Team members (Tim Hidalgo, Randy Acselrod and Roger Schott) about sheltering and evacuation.

Public Information Officer (PIO) Demonstration Set-Up In A Classroom

Keith Taylor discussing communication highlights with purple team members Gary Davis, Paul McBride and Johanna Berkey.

Air Sampling Equipment (Outside)

John Hall watches as Purple Team members Roger Schott, Randy Acselrod and Tim Hidalgo operate the RAP air sampler.

Blue Team members Steve Lockhaven and Dave Phipps start the portable generator needed to power the RAP air sampler.

DOE RAP Mobile Laboratory (Staffed by PNNL Personnel)

Anine Grumbles explains the chain of custody procedure with Blue Team members while they wait for an opportunity to tour the mobile lab.

Day Two Scenarios Overview
"Let the Fun Begin"

This was the planners' motto for day two. The work was over and the stage was set so all we had to do was to keep things rolling and let the Olympians do their thing. Five hours were allotted for five teams to perform at five different event scenes. To keep the contest fair, each event scene could not last longer than one hour including travel time.

The five event scenes were:
Water Sampling Station
Environmental Sampling Station
Air Sampling Station
Home/Residence Scene
Classroom Setup Simulation of the Supply System MUDAC.

Each event scene scenario dispatch notice was read to each team prior to starting. The focus was based on an incident at a fictitious Atomic Nuclear Facility in the local area. All RAM had to be removed and certified to the HAMMER Facility staff prior to the end of the day.

Residence Event Scene

The Residence event scenario dispatch notice read: "The night shift HP tech at Atomic Nuclear discovered alarming levels of removable contamination in the exit area and also found the portal monitors were not operating properly. The source of the contamination was traced to the machine shop where workers had been hurrying to complete a project, which they finished a little after the normal quitting time. Management wanted to call the three workers on the phone and have them come back to the facility to help clean up the mess. An alert HP tech suggested that the workers should remain at their respective homes and monitoring teams should be sent out to survey the homes."

> "The time is 8:00 PM and your team has been assigned to go to the home of John Miller at 702 Hammer Lane in the town of HAMMER. The necessary equipment has been gathered and the team instructions are to go and make sure John is OK. A Region 8 RAP Team PIO is available upon request."
>
> Limitations included: no respirators needed, no remediation or clean up, no alpha contamination, and necessary equipment will be provided at the event scene.

Teams were expected to drive to the set up residence, interface with the occupants, and determine the hazards. There were real hazards to deal with; not just with the folks they encountered, but also with removable contamination. The actors did have to supply the teams with certain information but every effort was made to make it as consistent as possible.

Technetium 99m was used to provide realistic contamination of the HP technician's work boots, clothing and vehicle. Tracks from the vehicle to the residence set up the unknown "loss of contamination" situation. The Radiation Safety Officer (RSO) was responsible for all RAM, the exercise experience and facility clean-up.

Residence

This building, at the HAMMER site, is known as the "Burn Structure." It is a three story building with prop rooms simulating a warehouse/living room, a bedroom and an electrical room. This building was our simulated Residence setting.

As part of the Residence Event Scene, the Purple Team uses a PIO to help with public relations issues.

Residence Scene Actors, Donna Somers and Larry Corgatelli answer the door for the Purple Team to begin this scenario.

Air Sample Event Scene

The Air Sample event scenario dispatch notice read: "Atomic Nuclear is experiencing a radioactive release from their main pharmaceutical process building. The release is suspected to be bypassing the filter system and an immediate radionuclide characterization is needed. Your team assignment is to traverse Hammer Fence Line Road looking for the edge of a plume (10 times background was the level used for the Olympics). As soon as the edge is located, a 30 cubic foot air sample is to be collected and field analyzed for gross beta and iodine. The sample should be prepared for turnover to the analytical lab for further analysis. The team should be prepared to take additional samples if requested but only one is needed as soon as possible."

The limitation was that each team would be provided with a vehicle equipped to perform the task.

For this event scene a cesium 137 calibrator unit was setup to expose a small portion of the road to the described exposure level. In addition, several smaller sources were planted around the plume to simulate spot deposition as the plume traveled past. As the teams drove into the exposed area they were expected to use their microR meter to determine the edge of the plume. At this point, they were to set up and collect the air sample, move to a low background area and perform the analysis and sampling packaging.

Blue team driver, Dave Phipps, surveys the road within the plume to determine protective clothing measures prior to exiting the vehicle.

Blue Team members set up to collect an air sample.

MUDAC Event Scene

The MUDAC event scenario dispatch read: “This event scene will be conducted in a classroom that is intended to simulate a working emergency operations center. An emergency at Atomic Nuclear has escalated and the public is at risk. Your team assignment is to move the incoming field team data through to a protective action decision as a group. If the public isn’t properly protected, the city fathers could push to close the plant down eliminating hundreds of jobs.”

The only limitations were that the controllers had to oversee each step to make sure the decisions proceeded in order and as a group.

This event scenario was to give field team members a concept of what happens to field team data when they report information to their coordinators. By allowing them to participate with decisions though the process, it was felt that field team members might better appreciate the need for timely and accurate data reporting.

Fred Klauss listens as Blue Team members explain the flow of field data through the decision process.

Tim Hidalgo tells Fred it is okay to remove the sheltering PAR from Sectors 3 and 4.

Environmental Monitoring Event Scene

The Environmental Monitoring event scenario dispatch notice read: “Due to a recent incident at Atomic Nuclear, Larry Haymaker called and is concerned his recently cut hayfield is contaminated. Even though no release occurred and the wind direction was not even close to Larry’s field the day of the incident, management is concerned Larry will cause trouble. Using the attached sampling plan, your field team has been requested to go to Larry’s field and obtain one soil sample and one vegetation sample. Management would like a call from the sampling scene to affirm things are okay.”

Sampling Plan:
Larry Haymaker
5685 Harrington Road
Latitude 46 10.89 Longitude 119 24.08
One soil sample and one vegetation sample from representative areas.

Limitations for this scene included: use GPS route 1 to navigate to location, select appropriate sampling site for soil and vegetation sample, package sample and call management with preliminary findings.

Because Larry's field was not in an affected area, teams were expected to use their public relation skills and satisfy the scene expectations. As an example, if a team showed up and dressed in anti-contamination clothing the image of a major problem would have been instilled in the public. However, displaying concern with public perception and confidence in their work skills would certainly help down play fear and anxiety that could be encountered during field sampling.

Red Team members Randy Acselrod and Roger Schott collect vegetation and soil samples from Larry Haymaker's field.

Water Sampling Scene

The Water Sampling scenario dispatch notice read: "Due to a suspected radiological release from Atomic Nuclear, Atom City is concerned their public water supply may be contaminated. Management, through the Public Information Officer, tried to explain to the city fathers that their city was not within or near the affected area of the suspected release. They reached an agreement to perform environmental samples including a water sample from the water inlet structure. The team assignment is to go to the GPS location and collect the appropriate sample that will be sent to the lab for analysis. Because of this agreement, this sample will take priority over other samples being sent to the lab. It is to be turned into mobile lab as soon as possible."

Sampling Plan:
Using the route stored on the supplied GPS unit, navigate to the selected site and collect one water sample and return the sample to the lab as soon as possible.
Intake structure is located at Latitude 46 18.87, Longitude 119 15.64

Limitations for this event scene were that the water sample was to be collected without wading into the water. A bucket and rope was provided but the team could improvise.

This event scene was specifically directed to demonstrate how the GPS units can be used for navigation purposes and to help bring out the need for water sampling procedures. GPS units are more than a compass that provides map coordinates; they can also be preprogrammed and used for teams to navigate to sample locations. Water sampling is not always as straight forward as soil and vegetation sampling. Sometimes there is a need to know the details as to 'why to take the sample,' so analytical results will represent the concern.

Ted Morales (left), Controller, watches as the Blue Team members carefully collect water samples from the public water supply inlet

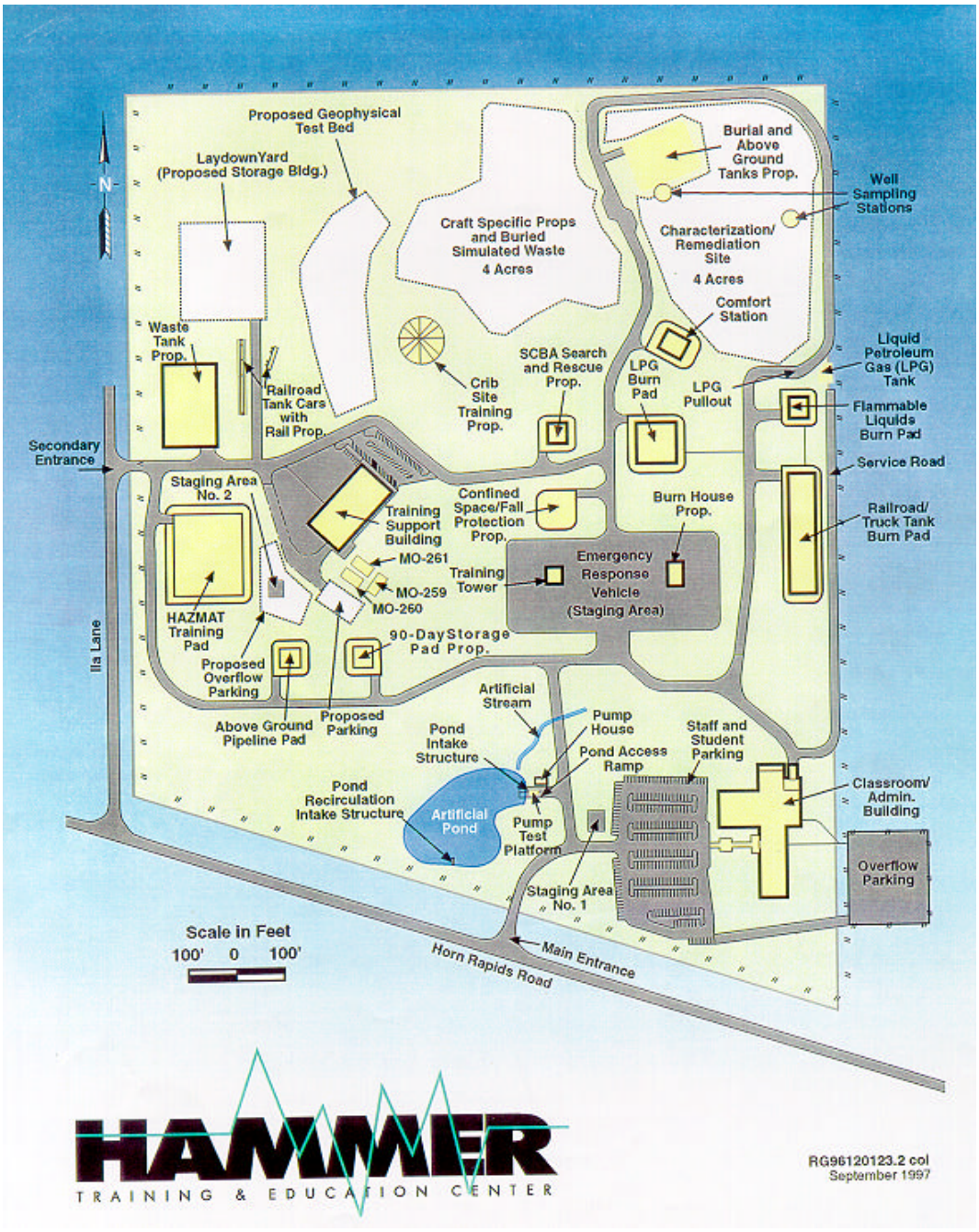
Hazardous Materials Management and Education Center (HAMMER)

The 1998 Field Team Olympics was held at the Hazardous Materials Management and Education Center, better known as the HAMMER facility. It is located in the southwest corner of the Hanford site just north of Richland. The facility began in 1986 as a community-based initiative to improve training for hazardous materials workers. The facility features used for our Olympics included:

- Classrooms and resource center.
- Staff offices.
- Burn building with propane-fueled props, providing hands-on fire response simulations.

Training Facility

The facility map shows the locations of the training areas and props.



Scoring -- Awards

Through the years, the Olympic spirit between teams has become very competitive. The scoring system is evolving to keep the competition as fair and equitable as possible. In years past, evaluators were assigned to each station and were asked to give their assessment as to which team performed best at their station. In the end, the assessments were used to determine the winner. The scoring system has progressed to keep pace with the competition.

For the 1998 Field Team Olympics, weighting factors and a point system was used to track each event. Starting with the game, team points were awarded for first, second, third, fourth, and fifth place. First place was 10 points, second place was 8 points, third place was 6 points, and fourth place was 4 points. The game was given a weighting of 10% for the overall Olympic competition.

The afternoon fair booth competition was also worth 10% of the total score. Each fair booth representative was given a score sheet and asked to grade each team in areas such as team interaction and response to questions. Points were also given to special items like finding all the hidden sources at the instrument booth. A maximum of 10 points could be earned at each fair booth. The sum of the points each team earned at all the fair booths was used to calculate the value they earned for the fair booth competition.

Day two event scenes were given the most points. Four of the five event scenes had a weighting factor of 15%. Because the Residence event scene was expected to produce the greater challenge it was weighted at 20%. Each of the five event scene score sheets had scoring categories unique to that event scene. There were at least two scorers at each event scene. The scorers were given the task of awarding points in each of the categories for each different team that passed through their station.

In the end, the score sheets were verified, the results entered into the scoring spreadsheet and the overall scores were calculated. The scoring results for the 1998 Field Team Olympics were:

88.45	Yellow
78.10	Purple
77.75	Blue
77.25	Green
76.10	Red

Gold, Silver, and Bronze medals were awarded to the first, second, and third place teams. The fourth and fifth place teams were awarded ribbons for their efforts with the expectation that they will challenge for the medals in future years.

Each of the members who attended received a Certificate of Participation.

Certificates of Participation and Ribbon Winners

Kathy Beecher and Susan May presenting a Certificate of Participation to Johanna Berkey, DOH

Susan May and Kathy Beecher presenting a Certificate of Participation to YeVonna Muns, Siemens Power Corporation

Ribbon Winners:

YeVonna Muns, Janette Swindoll, John Schmidt, Roger Schott, Randy Acselrod and Tim Hidalgo.

Medal Winners

Gold Medal Winners:

John Martell
Dave Ellingson
Tim Tate
Mark Smith

Silver Medal Winners:

Paul McBride
Gary Davis
Johanna Berkey

Bronze Medal Winners:

Steve Lockhaven
Dave Phipps
Mark Petit
Kathy Fox-Williams

Coming to the End…

The wrap up of this book will be in the form of personal comments and quotes from participants, evaluators, and observers. The quotes came from three sources; one from expectation summaries discussed at the beginning of the training, one from evaluation forms completed at the end to the training, and the other from two event scene evaluators. The evaluation form quotes are from a summary of all the comments and will not have a name attached.

In addition, the planning committee would like to say "Thank You Again" to all the folks who participated in the 1998 Joint Field Team Olympics. It was totally a group effort and we hope that everyone involved viewed the experience as a beneficial training tool and had an enjoyable time.

And now some pictures and quotes.

From the expectation summary:

"Meet people and enjoy being here"

"What are the Field Team Olympics about"

"Match names and faces"

"Work together, teamwork"

"Learn new techniques"

"More hands on"

"Getting acquainted, learning different ideas"

"See how other field teams work"

"Get to know each other, strengths and weaknesses"

Deanna Meggs, Oregon Department of Energy representative and Residence Event Scene Controller, talking with Susan May and planning for the future...

From the evaluation summary:

"Working with RAP and DOH is a great start."

"The Jeopardy/Wheel of Fortune game was a good discussion period."

"The training section covered the first day was very informative."

John Hall, Controller, Environmental Sampling, with Tim Hidalgo, injecting "words of wisdom".

"Good idea putting the mix in the teams; different inputs from different backgrounds."

"Fair was very beneficial to all, we could spend more time interacting with each fair booth."

"Moved very well from topic to topic and exercise to exercise."

"Having as-read conditions made for an exciting field exercise."

"Field exercise was very useful to test our abilities and resources with regards to event response."

"I like working with real readings, better training, much more believable. You can actually use your instruments."

"Love the Tc99m."

"Great training for field work."

Anine Grumbles and Ralph Broz worked as controllers for the Air Sample Event Scene. Anine provided the following passage after the event.

“It was a hot sunny day at the HAMMER Facility. The heat rose off the asphalt in iridescent waves, and it was only morning. Teams of 3 - 4 people each arrived at the air sample station. The assignment for each team was to find the centerline of the plume and take an air sample.

Some teams approached with caution -- surveying the ground for contamination prior to alighting from the vehicle. Most of the teams used protective clothing of booties and gloves. They took samples with either the Department of Health's low-volume sampler or the Department of Energy's high-volume sampler.

We identified some overlooked considerations for taking air samples in contaminated areas: placement of the air sampler for unimpeded sampling, preferred use of charcoal or silver-zeolite cartridges, when to use correction factors, and when and how long to flush Nobel gasses. We discovered a magnitude of differences between using DACs to calculate the radioiodine concentration and our standard air sample calculation.

The emphasis was on team communication. All of the winning teams had exceptional intra-team communication on pros and cons of how to best accomplish their tasks. They also exhibited good "drillsmanship" by explaining their actions to make sure that the controllers were aware of all the contamination control considerations and the reasons behind some of their team’s choices.”

Anine Grumbles, Air Sample Controller, wishing it would rain to add some extra challenge and to cool things off.

Ralph Broz, Air Sample Controller, directing the plume to a safe area.

Aileen Jefferies participated as a controller for the water sample event scene. This event scene included both the water sampling and the use of a GPS unit to navigate to the scene location from the HAMMER facility. The following two passages were provided by Aileen when we asked for her written comments.

"The Water Sampling Station was set-up at the intake for the water supply to Richland. Two controllers waited at the site and the field team used a GPS unit to navigate to the site. When they got to the site they needed to assess the landscape and make a judgment of where and how to sample. There was a pier at the location and a boat-launching ramp.

The field teams had the choice of using the pier to sample away from shore or of walking to the water's edge and taking a sample. From the pier they had the difficulty of reaching the water. This did not present a major obstacle to the teams that chose to sample here. At the water's edge, the water might not be mixed and it might be contaminated with oil from boats. However, most of the teams sampled at the water's edge.

The teams generally remembered to label the sample. Some forgot to double-bag the container. There was a mechanical difficulty in handling the containers because of their size and shape.

The team had to contend with a 'bystander/actor" who asked questions. The team that handled this the best was the one that delegated the job to a team member and had the team member take the bystander away from the sampling site and explain what was happening. There was a great variation in how successfully the teams handled this challenge."

Aileen Jeffries and Craig Lansing, Water Sample Controllers, hiding in the bushes.

and on the GPS adventure;

"The teams all successfully navigated to the site using the GPS unit when there was a signal from the satellites. Some teams showed greater proficiency than others. They did not all use the same streets and I was interested to observe that it did not matter significantly.

For the first several teams the satellite signal behaved predictably. For the last team the signal disappeared and I had to direct them to the site. Toward the end the signal had shifted such that the location it indicated was several hundred feet from the original location. As long as there was a signal, the team was able to locate the sampling point."

Team Photograph

Team Members from left to right:

YeVonna Muns
Janette Swindoll
John Schmidt
Dave Ellingson
John Martell
Mark Smith
Tim Tate
Tim Hidalgo
Gary Davis
Dave Phipps
Kathy Fox-Williams
Mark Pettit
Roger Schott
Steve Lockhaven
Randy Acselrod

Not Pictured:
Johanna Berkey
Paul McBride